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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,651	03/01/2002	Brent Townshend	01-185-A	7884

7590 04/23/2003

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EXAMINER

SMITS, TALIVALDIS IVARS

ART UNIT PAPER NUMBER

2654

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/087,651

Applicant(s)
Brent Townshend et al.

Examiner
Talivaldis Ivars Smits

Art Unit
2654



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 27, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above, claim(s) 25, 27, and 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24, 26, 28-30, and 32-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. In response to the Office Action mailed December 4, 2002 applicants have submitted an Amendment, filed March 27, 2003, amending claims 1 and 24 and adding new claims 41-44 without adding new matter, canceling claims 25, 27, and 31, and arguing to traverse claim rejections.

Response to Arguments

2. Applicants' arguments have been fully considered but they are not persuasive, for the following reasons:

3. Applicants argue a difference between Rtischev's reading quality score and their intelligibility estimate, the latter said to measure "the degree to which others can understand a person's speech" (Amendment, p. 4). They assert that "a teacher's evaluation of a speaker's intelligibility is a subjective evaluation" while "comparing a transcript of what a listener hears the speaker say with the items that were spoken...provides an objective evaluation of a speaker's intelligibility" (p. 6).

However, Rtischev *et al.* actually teach using a speech recognizer to determine a reader's speech *quality*, which measure they state is "preferably based" on "reading errors" determined by a "context-sensitive speech recognizer" (Abstract). By applicants' own argument, the resultant

speech-to-text transcription by the recognizer is then also a measure of the speaker's *intelligibility*. Moreover, a speech recognizer is even more "objective" than a listener who makes a transcription, because, unlike the recognizer, the listener would not necessarily produce the identical transcript when listening to the identical utterance on different days (as can be readily proved by having the same person transcribe the same, reasonably long, recorded speech).

True, "A speaker may obtain a high reading quality score" from a speech recognizer (or a teacher) "even though a listener may have difficulty understanding the speaker". But, the reverse inconsistency can occur with a speech recognizer trained to different speakers versus a listener familiar with the speaker's accent, so that this has nothing to do with any supposed difference between speech quality and intelligibility.

Despite applicants' argument that "The ability to read and the ability to be understood by others are two different abilities that require different testing methods", the examiner still exists that Rtischev *et al.* and applicants are inescapably measuring both speech quality and intelligibility, for they go together, but their evaluations can vary with the background of the listener or the training procedure for the speech recognizer, in both cases depending on their respective degree of "tolerating strong foreign accents from a non-native user" (all quotes from Amendment, p. 4), which can vary.

4. As for the newly-added limitations to claims 1 and 24 of "preparing a transcription of what was heard" or "creating a transcription of what the listener hears", respectively, they are broad enough not to require the *listener* to be transcribing anything, for a speech *recognizer* located

near a listener (or where a potential listener would be located) and doing speech-to-text transcription reads on these limitations. As indicated above, such a speech recognizer is taught by Rtischev *et al.* Also, their “script”, which is being read for reading evaluation, also represents “what was heard” or “what the listener hears”.

5. Therefore, the amended pending claims stay rejected over Rtischev *et al.*, and their rejection is repeated, *mutatis mutandis* for claim amendments and cancellations, below.

6. As for the argument that co-pending application 09/311,617 does not involve obviousness-type double-patenting because “Townshend does not suggest or claim a method or apparatus for measuring intelligibility of a speaker using a transcription of what a listener hears”, the examiner disagrees for reasons given above, indicating that “what a listener hears” is the same as what a speech recognizer determines. Thus, the provisional double-patenting rejection stands, and is repeated, *mutatis mutandis*, below.

Claim Objections

7. Claim 28 is now objected to because it still depends on canceled claim 27 . Appropriate correction is required.

Claim Rejections - 35 USC

8. The text of those sections of Title 35, U.S. Code not included in this action can be found

in the previous Office action.

Claim Rejections - 35 USC § 102

9. Claims 1, 2, 5, 7, 8, 36, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Dimitry Rtischev *et al.* (U.S. Patent 5,634,086, issued May 27, 1997).

As per claims 1, 2, 5, 7, 36, and 37, Rtischev *et al.* teach:

- a means for hearing at least one person who is repeating items (spoken-language instruction apparatus employing speech recognition with user reading words from a written script from an inherent database, Abstract; user and microphone, or user and telephone, Fig. 1, elements 12 and 16, or elements 12 and 14, respectively); and
- means for comparing the items with a transcription of what was heard and thus measuring intelligibility from the comparison (speech recognizer using nonlinear HMM speech models, Fig. 3, element 112; preselected script, element 114; score set, element 120; reading errors, col. 3, lines 43 and 47).

As per claim 8, the “reading errors” (col. 3, lines 43 and 47) of Rtischev *et al.* inherently include at least word substitutions, for an error in reading a word could cause the ASR to interpret it as a different existing word (e.g. a Japanese reader using Rtischev *et al.*’s apparatus to learn English might pronounce “frame” as “flame”, which would cause the ASR to recognize the spoken word as the latter).

Claim Rejections - 35 USC § 103

10. Claims 3, 4, 6, 8, 11-18, 24, 26, 28-30, 32, 33, 42, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rtischev *et al.* as applied to claims 1, 2, 5, 7, 8, 36, and 37, above.

As per claims 3, 4, 8, 11-13, 15-18, 24, 26, 28-30, 32, 33, 42, and 44, Rtischev *et al.* do not teach a listener or a plurality of people capable of listening to the speaker. However, the examiner takes Official Notice that it is centuries old and notoriously well known to have teachers listen to speakers (students) so as to evaluate the intelligibility of their speech in terms of reading errors. Therefore, it would have been obvious for an artisan at the time of invention to have also people listening, at least during the training mode for the Automatic Speech Recognizer (cf. Fig. 3, elements 102 and 104), to make sure the ASR does not make unreasonable “recognitions” or rejections. (Claim 28 has been reinterpreted as depending on claim 24.)

The rest of the limitations were discussed in connection with the rejection of claims 1, 2, 5, 7, 8, 36, and 37, above.

As per claim 14, Rtischev *et al.* do not teach selecting listeners based on certain background characteristics. However, it would have been obvious for an artisan at the time of invention to select listeners that have extensive background speaking knowledge of the language being learned because they would be best able to determine the intelligibility of someone trying to speak the language.

11. Claims 9, 10, 19, 20-23, 25, 34, 35, 38-41, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rtischev *et al.* as applied to claims 1, 2, 5, 7, 8, 36, and 37, above, in view of Charles Lewis *et al.* (U.S. Patent 5,059,127, issued October 22, 1991).

As per claims 9, 10, 19, 20-23, 25, 34, 35, 41, and 43, while Rtischev *et al.* teach evaluating an error count intelligibility score (reading errors, col. 3, lines 43 and 47), they do not evaluate difficulty of the items and ability of a listener, nor doing this using Item Response Theory. However, Lewis *et al.* do (col. 1, line 63 through col. 2, lines 1, 16-26, and 42-43, with Figure 1A).

It would have been obvious for an artisan at the time of invention to do this because Lewis *et al.* teach that IRT “allows creation of a test in which different individuals receive different questions, yet can be scored on a common scale” as well as “permits determination in advance of test administration of the level of ability and the accuracy with which ability has been measured” (col. 2, lines 31-36).

The rest of the limitations were discussed in connection with the rejection of claims 1, 2, 5, 7, 8, 36, and 37, above.

As per claim 38, Rtischev *et al.* do not teach a database containing data from previous evaluations. However, Lewis *et al.* teach retaining data from previous “testlets” and “sequentially administering testlets ... until a pass/fail decision can be made” (Abstract), thus suggesting retaining results of previous intelligibility evaluations (testlets) for later continued evaluation. It

would have been obvious for an artisan at the time of invention to do this, to avoid having to administer all the testlets in a single sitting.

As per claim 39, Rtischev *et al.* teach evaluations using data selected from at least speaker responses and items (col. 3, lines 11-17).

As per claim 40, Rtischev *et al.* suggest use of nonlinear artificial neural net models for speech recognition (see reference to Kim *et al.* under "Other Publications" on the front page, top of second column).

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1-24, 26, 28-30, and 32-44 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5-9, and 11-15 of copending Application No. 09/311,617. Although the conflicting claims are not identical, they are not patentably distinct from each other because they claim obvious variations of the claims in the instant application. The operation of the speech recognizer constitutes preparing a transcript.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. **Any response to this action should be mailed to:**

Box AF
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or FAXed to:

(703) 872-9314 (please label *official* communications
"EXPEDITED PROCEDURE"; please label *informal* or
draft communications "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park 2, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

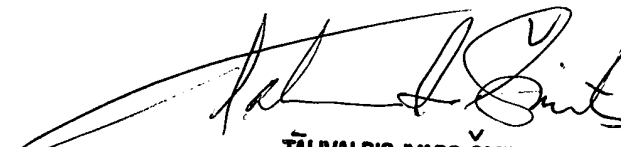
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner, Talivaldis Ivars Smits, whose telephone number is (703) 306-3011. The examiner can normally be reached Mondays-Fridays from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold, can be reached on (703) 305-4379. The facsimile phone number for Technology Center 2600 is (703) 872-9314.

Application/Control Number: 09/10,087,651
Art Unit: 2654

Page 11

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 2600 customer service, whose telephone number is (703) 306-0377.



TĀLIVALDIS MĀRS ŠMITS
PRIMARY EXAMINER

Art Unit 2654
April 21, 2003